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SOME NEGLECTED NAMES IN WALTER'S FLORA CAROLINIANA.

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THE first general descriptive flora of any part of the United States using the binomial system was Walter's Flora Caroliniana, published at London in 1788 by John Fraser, who had met Walter in Carolina in 1785 and brought back to England the manuscript of the work. The Walter herbarium, after being in the possession of the Fraser family for many years after Walter's death in 1788, was presented in 1849 to the Linnaean Society and purchased for fifteen shillings by the British Museum in 1863. The specimens, occupying 117 pages in a large volume, are arranged alphabetically for the most part, with the grasses¹ and the few extant types of Walter's new genera at the end. As already remarked by Britten² and Hitchcock,³ many of Walter's types are missing and some of those which remain are in poor condition. In many cases, in genera wherein Walter described new species as well as Linnaean, no trace of the former can be found, while the latter which could so well be spared are represented by identifiable specimens. Many of the plants are labeled only with the generic name, and, in such cases as that of *Chironia* (= *Sabatia*), whose six species of the Flora are represented by seven specimens, it is often a matter of some difficulty to determine which should be considered the types, from the general insufficiency of Walter's descriptions. Even where there is a named specimen it is sometimes, although rarely,

¹ The grasses of the Walter collection have been the subject of a paper by A. S. Hitchcock (16th Rep. Mo. Bot. Gard. 31 (1905)).

² Britten, Journ. Bot. xxxvii. 485 (1899).

³ Hitchcock, 16th Rep. Mo. Bot. Gard. 32 (1905).

unidentifiable, as in the case of *Delphinium carolinianum* Walt., which has been a nomen dubium since its description and is likely to remain so, the type consisting merely of a naked scrap of stem three inches long. But in most cases, with the help of the indications given by Michaux and Elliott, it is possible to identify Walter's species very definitely.

The labels attached to the specimens are, as already mentioned, rather unsatisfactory, many of them bearing only the generic name, and there are frequent evidences of confusion in the collocation of label and specimen. What I take to be Walter's own handwriting is shown on a label without specimen of *Spiraea trifoliata*, and on the labels of *Syntherisma villosa* and *Vincetoxicum*; but most of the remaining labels are in another hand, which from its agreement with some writing on the title page of the volume may be affirmed with considerable certainty to be that of John Fraser himself, into whose keeping the collection passed, presumably on the death of Walter. Mr. James Britten, who has examined the evidence, agrees with me that the authorship of these handwritings may be regarded as practically established. Most of the errors in association of labels and specimen, it should be stated, are in the case of tickets in the handwriting of Fraser.

Although thirty-two new genera were indicated by Walter, only four¹ (*Syntherisma*, *Frasera*, *Amsonia*, *Vincetoxicum*) were actually named; for all the others the same pseudonym *Anonymos* was used. By far the greater part of these were really new at the time, and nearly all were provided with names by J. F. Gmelin three years later in his (thirteenth) edition of Linnaeus' *Systema*; but most of Gmelin's names were long disused and have been replaced by others now sustained as *nomina conservanda* by the Vienna Congress. The specific names used by Walter under his twenty-eight genera called *Anonymos* are today kept up where valid (except in a few cases hitherto overlooked), which seems the proper treatment to pursue with them, although it might be assailed with a show of justice in instances where the identical name is given to two or more species in different parts of the Flora. Thus there are four plants called *Anonymos aquaticus*, two called *A. repens*, and six called *A. carolinensis*.² It

¹ A comparison of Walter's description of his *Rajania* (*R. ovata* Walt. = *Brunnichia cirrhosa* Gaertn., published in the same year) with that of Linnaeus is sufficient to prove that the former was not intended by Walter as a new genus.

² It may be well to call attention to the fact that this name was always spelt "*caroliniensis*" by Walter, who should be followed in this respect, although most authors who have adopted his names have written it "*carolinensis*."

seems to the writer, however, that these names should not be rejected on the ground of homonymy, since the genera under which they were published, though unfortunately all provided with the same apology for a name, were properly described and differentiated, and the case is therefore not comparable with that of identical specifics in the same genus.

Very many of Walter's new names have been in long-continued use, and some others must remain doubtful on account of the absence of specimens and the insufficiency of Walter's descriptions; but the twenty-odd changes here proposed on the basis of a careful study of Walter's herbarium in connection with his Flora are believed to be beyond reasonable doubt: several indeed have already been proposed by others.

1. *Anonymos caroliniensis* Walt. Fl. Car. p. 60 = **ELYTRARIA CAROLINIENSIS** (Walt.) Pers. Syn. i. 23 (1805). This displaces *E. virgata* Michx. Fl. i. 9, t. 1 (1803). No specimen in Walter Herbarium. The narrow-leaved variety from Florida should be called *E. CAROLINIENSIS* (Walt.) Pers. var. **angustifolia** (Fernald) Blake (*E. virgata* var. *angustifolia* Fernald, Bot. Gaz. xxii. 169 (1896); *Tubiflora carolinensis angustifolia* (Fernald) Small, Fl. S. E. U. S. ed. 1. 1082 (1903)).

2. *Anonymos umbrosus* Walt. p. 63 = **MICRANTHEMUM umbrosum** (Walt.) Blake (*M. orbiculatum* Michx. Fl. i. 10. t. 2 (1803)). No specimen, but the description perfectly definitive of this species.

3. *Anonymos caroliniensis* Walt. p. 91 = **LITHOSPERMUM CAROLINENSE** (Walt.) MacM. Metas. Minn. Vall. 438 (1892) (as *L. carolinense*) displacing *L. Gmelini* (Michx.) Hitchc. (1894). No specimen.

4. *Convolvulus speciosus* Walt. p. 93 = **IPOMOEA SPECIOSA** (Walt.) Hall. fil. Bot. Jahrb. xviii. 143 (1893) (*I. sagittata* Poir. Voy. Barb. ii. 122 (1789)).

5. *Anonymos pinnatus* Walt. p. 103 = **PETALOSTEMUM pinnatum** (Walt.) Blake (*P. corymbosum* Michx. Fl. ii. 50 (1803); *Kuhnistera pinnata* (Walt.) Ktze. Rev. Gen. i. 192 (1891)). A very poor specimen is in the herbarium.

6. **SIUM SUAVE** Walt. p. 115 (*S. cicutaeifolium* J. F. Gmel. Sys. ed. 13. ii. 482 (1791)). Although *S. cicutaeifolium* is quoted in the seventh edition of Gray's Manual (p. 615) as of Schrank, it was first published as a binomial by Gmelin, having been used in a varietal or subspecific sense by Schrank (Baier. Fl. i. 558 (1789)) in the form *Sium Berula*

Gouan III. *cicutae-folium*, based on the *Sium foliis pinnatis, pinnis lanceolatis, rarius serratis* of J. G. Gmelin (Fl. Sib. i. 201. t. 47 (1747)), from the Obo River in Siberia. J. F. Gmelin's name was based on the same citation from the Flora Sibirica, but he makes no reference to Schrank's name although his own was not improbably founded upon it. Walter's *Sium suave* is evidently the same species and has three years' precedence. There is no specimen so named in the Walter Herbarium, but there is a specimen of this species labeled *Eryngium* in the handwriting attributed to Fraser.

7. RHEXIA ALIFANUS Walt. p. 130 (*R. glabella* Michx. Fl. i. 222 (1803). No specimen. The change here proposed has recently been made by Harper (Bull. Torr. Club, xli. 567 (1914)).

8. *Andromeda reticulata* Walt. p. 137 = LEUCOTHOE POPULIFOLIA (Lam.) Dippel, Handb. Laubh. i. 356 (1889).—*Andromeda populifolia* Lam. Ency. i. 159 (1783); *A. lucida* Jacq. Coll. i. 95 (1786) & Icon. i. t. 79 (1781–1786), not *A. lucida* Lam.¹ Ency. i. 157 (1783); *A. acuminata* Ait. Hort. Kew. ii. 70 (1789); *Leucothoe acuminata* (Ait.) G. Don, Gen. Sys. iii. 832 (1834).—The types of *Andromeda reticulata* Walt. and *A. populifolia* Lam., both of which I have examined, represent the species commonly known as *Leucothoe acuminata* (Ait.) G. Don, which must become *L. populifolia* (Lam.) Dippel.

9. *Thymbra ? caroliniana* Walt. p. 162 = MACBRIDEA **caroliniana** (Walt.) Blake (*M. pulchra* Ell. ex Nutt. Gen. ii. 36 (1818); Ell. Sk. ii. 86 (1824)). Walter's description is definitive of this species, which according to Elliott is abundant in some places in the Carolinas, and his name *Thymbra ? caroliniana* is unhesitatingly referred by Elliott to his new species. No specimen.

10. *Scutellaria caroliniana* Walt. p. 163 = SCUTELLARIA OVATA Hill, Hort. Kew. ed. 1. 242 (1768); ed. 2. 242. t. 8 (1769) (*S. versicolor* Nutt. Gen. ii. 38 (1818)). The synonymy of this species is somewhat confused. The species was described by Hill as *S. ovata* in the first edition of the Hortus Kewensis in 1768; it was redescribed in better fashion and passably figured by Hill as a new species *S. pilosa* in volume xiii. (p. 64. t. 80) of the Vegetable System, which though dated 1773 is known to have been published in the same year (1768) as the Hortus Kewensis. In the second edition of the Hortus, pub-

¹ LYONIA LUCIDA (Lam.) K. Koch, Dendr. ii. pt. 1. 118 (1872), replaces *L. nitida* (Bartr.) Fernald, RHODORA x. 53 (1908) (*Andromeda nitida* Bartr. ex Marsh. Arb. 8 (1785)).

lished in 1769, practically a reprint of the first but with the addition of twenty plates reduced from the Vegetable System, the plant reappears as *S. ovata* (p. 242) with a reduced and reversed copy of the plate in the Vegetable System, where it had been called *S. pilosa*. There seems to be no way of deciding definitely as to the priority of the first edition of the Hortus over the thirteenth volume of the System, or vice versa. However, as the twelfth volume of the latter work, published in 1767 (but dated 1773), is quoted at various places in the Hortus, while the thirteenth is not, it seems probable that the Hortus appeared before the thirteenth volume of the System. They were clearly all under preparation at the same time, for some species first published in the twelfth volume (1767) are also published as "Species Novae" in the Hortus of 1768, and reappear under this same title, with the addition of plates from the twelfth volume of the System, in the second edition of the Hortus in 1769, with references to the plates of the twelfth volume. Accordingly it seems wisest to adopt the name *Scutellaria ovata* Hill in place of *S. versicolor* Nutt., particularly since this course permits according to International Rules the retention of the well-known name *S. pilosa* Michx. for that species, which would otherwise require to be changed to *S. ovalifolia* Pers. The types of *S. versicolor* Nutt. and *S. caroliniana* Walt., both in the British Museum, are identical with the plant here taken as *S. ovata* Hill. *S. caroliniana* Poir. (Ency. vii. 106 (1806)), the type of which I have examined at Paris, is *S. integrifolia* L.

In the Hortus Kewensis of Hill his *S. ovata* was described as follows: "Caulis bipedalis, ramosus, subhirsutus. Folia ovata. Flores axillares, rubescentes. Biennis. Ex America boreali. Julio florens." In the System a better description was given: "Scutellaria Pilosa. The Leaves are hearted, nurlled, and obtuse: the Twigs are downy. This is a Perennial, native of North America; a Plant of two feet high, flowering in July. The Stalk is brown: the Leaves are of a dull dead green: the Flowers are crimson: and the Seed-vessels of a dusky reddish hue." Despite Hill's description of the flowers as reddish, changed to "crimson" in the System, his character is otherwise so applicable and the peculiar fruit of the species is so naturally, if sketchily, represented in his figure that the identification of his plant with Nuttall's *S. versicolor* seems perfectly safe. Mr. James Britten has kindly called my attention to a fourth publication of this species as new (as *S. pilosa*) by Hill in vol. xvii. (p. 19 t. 20) of the

Vegetable System in 1770 ("1773") where a more detailed description is given.

The variety with enlarged floral bracts, those of the lower flowers 2 cm. long, should be known as *S. OVATA* Hill var. **bracteata** (Benth.) Blake (*S. versicolor* Nutt. var. *bracteata* Benth. Labiat. 433 (1832-1836)). Specimens have been examined from TEXAS: Rio Brazos, 1834, *Drummond* (type coll.: Brit. Mus.); without definite locality, 1846, *Lindheimer* III 492 (Brit. Mus.).

11. *Prasium?* *purpureum* Walt. p. 166 = **PHYSOSTEGIA purpurea** (Walt.) Blake (*P. denticulata* (Ait.) Britton, Mem. Torr. Club, v. 284 (1894); *Dracocephalum denticulatum* Ait. Hort. Kew. ii. 317 (1789)). Two specimens marked *Prasium* are in the Walter Herbarium (p. 87). The right-hand specimen, with sharply mucronate-serrate lanceolate leaves, which agrees with Walter's description of his *Prasium?* *incarnatum*, is *Physostegia virginiana* (L.) Benth., while the other, with linear-lanceolate crenate-dentate leaves, typifies *Prasium?* *purpureum* Walt. and is the same as *Physostegia denticulata* (Ait.) Britton.

12. *Anonymos caroliniensis* Walt. p. 168 = **RUELLIA CAROLINIENSIS** (Walt.) Steud. Nom. ed. 2. ii. 481 (1841) (as *R. carolinensis*), displacing *R. ciliosa* Pursh, Fl. ii. 420 (1814). The small-flowered variety becomes *R. CAROLINIENSIS* (Walt.) Steud. var. **parviflora** (Nees) Blake (*Dipteracanthus ciliosus* (Pursh) Nees γ . *parviflora* Nees in A. DC. Prod. xi. 123 (1847); *R. ciliosa* Pursh var. *ambigua* Gray, Syn. Fl. ii. pt. 1. 326 (1878); *R. ciliosa parviflora* (Nees) Britton, Mem. Torr. Club, v. 300 (1894)). No specimen.

13. *Anonymos cassioides* Walt. p. 171 = **SEYMERIA cassioides** (Walt.) Blake (*S. tenuifolia* Pursh, Fl. ii. 737 (1814); *Afzelia cassioides* (Walt.) J. F. Gmel. Sys. ed. 13. ii. 927 (1791); *Gerardia cassioides* (Walt.) Pers. Syn. ii. 154 (1806¹)). No specimen in Walter Herbarium. *Seymeria* Pursh (l. c. 736) is a nomen conservandum.

14. **HYPERICUM DENTICULATUM** Walt. p. 190 (*H. virgatum* Lam. Ency. iv. 158 (1797); *H. angulosum* Michx. Fl. ii. 78 (1803)). No specimen, but the description unquestionably applicable to this species. The very narrow-leaved southern form becomes *H. DENTICULATUM* Walt. var. **acutifolium** (Ell.) Blake (*H. acutifolium* Ell. Sk. ii. 26 (1824); *H. virgatum* Lam. var. *acutifolium* (Ell.) Coult.

¹ Although the second volume of Persoon's Synopsis is dated 1807, its first section (pp. 1-272) was issued in the autumn of 1806, as is shown by a review in the Regensb. Bot. Zeit. v. 321 (21 Nov. 1806).

Bot. Gaz. xi. 106 (1886)); the broad-leaved form hitherto chiefly known from New Jersey, of which good specimens collected by Rugel (number 370) in wet swamps of the Swanano Valley, North Carolina, in August 1841, are in the British Museum, becomes *H. DENTICULATUM* Walt. var. **ovalifolium** (Britton) Blake (*H. virgatum ovalifolium* Britton, Trans. N. Y. Acad. Sci. ix. 10 (1889)). Var. *ovalifolium* differs from both the other forms of the species not only in leaf-form but in its larger ovate or elliptic-oblong sepals, but does not seem specifically distinct.

15. *PRENANTHES AUTUMNALIS* Walt. p. 193 (*P. virgata* Michx. Fl. ii. 83 (1803)). A good specimen is in the Walter Herbarium. All authorities, including Michaux himself, have referred Walter's *P. autumnalis* to *P. virgata*, but have failed to adopt the prior name. The *Prenanthes alba* β of Linnaeus (Sp. ii. 798 (1753)), based on Clayton 319, now in the British Museum, is also this species.

16. *Hyoseris biflora* Walt. p. 194 = **KRIGIA biflora** (Walt.) Blake (*Krigia amplexicaulis* (Michx.) Nutt. Gen. ii. 127 (1818); for full synonymy see Standley, Contr. U. S. Nat. Herb. xiii. 356 (1911)). No specimen. |

17. *Chrysocoma acaulis* Walt. p. 196 = **VERNONIA ACAULIS** (Walt.) Gleason, Bull. N. Y. Bot. Gard. iv. 222 (1906) (*V. oligophylla* Michx. Fl. ii. 94 (1803)). No specimen in Walter Herbarium.

18. *Gnaphalium undulatum* Walt. p. 203 (not of L.) = **PTEROCaulon PYCNOSTACHYUM** (Michx.) Ell. Sk. ii. 324 (1824). Walter's *G. undulatum*, a pure misidentification of the Linnaean *G. undulatum* (Sp. ed. 1. ii. 852 (1753); ed. 2. ii. 1197 (1763)), has been taken up by Small as *Chaenolobus undulatus* (Walt.) Small, Fl. S. E. U. S. ed. i. 1236 (1903). This generic name by the way, was not *Chaenolobus* but *Chlaenobolus* (Cass. Dict. Sci. Nat. xlix. 337 (1827)), from $\chi\lambda\alpha\acute{\iota}\nu\alpha$ *cloak*, and $\beta\acute{\alpha}\lambda\lambda\epsilon\upsilon\nu$ *to throw*, in allusion to the deciduous scales of the involucre, and it is antedated by Elliott's *Pterocaulon* of 1824. Walter's misidentification of the Linnaean species has no claim to adoption in nomenclature.

19. *Perdicium semiflosculare?* Walt. p. 204 (not of L.) = **CHAPTALIA TOMENTOSA** Vent. Jard. Cels. 61. t. 61 (1800). Walter's specific name, although printed in italics as was his usual custom with new species, is clearly only intended as a doubtful identification of his plant with *Perdicium semiflosculare* L. (Amoen. Acad. vi. 103 (1763)) from the Cape of Good Hope, the diagnosis of which in the second edition of the Species Plantarum (ii. 1248 (1763)) is quoted nearly

verbatim by Walter, with the addition of a description of the leaves. Although adopted by Kuntze as *Thyrsanthema semiflosculare* (Walt.) Ktze. (Rev. Gen. i. 369 (1891)), and by Robinson as *Chaptalia semifloscularis* (Walt.) Rob. (Proc. Am. Acad. xlv. 412 (1910)), Walter's name — a mere misidentification of Linnaeus' — should obviously not be adopted to the overthrow of the properly published *Chaptalia tomentosa* Vent. The fact that Linnaeus' species is now treated as a *Gerbera* can have no influence on the invalidity of Walter's use of the name. There is a good specimen in the Walter Herbarium.

20. *ARETHUSA RACEMOSA* Walt. p. 222 = *PONTHIEVA racemosa* (Walt.) Blake (*P. glandulosa* (Sims) R. Br. in Ait. Hort. Kew. ed. 2. v. 200 (1813); *Neottia glandulosa* Sims, Bot. Mag. t. 842 (1805)). There is an excellent specimen in the Walter Herbarium.

21. *Arethusa spicata* Walt. p. 222 = *HEXALECTRIS SPICATA* (Walt.) Barnhart, *Torreya*, iv. 121 (1904). Walter's name is very properly taken up by Barnhart in place of the later *H. aphylla* (Nutt.) Raf. There is no specimen, but Walter's description is quite distinctive of this species rather than of *Aplectrum hyemale* (Muhl.) Torr., to which his name has been referred by some.

22. *SALIX ALPINA* Walt. p. 243 (*S. tristis* Ait. Hort. Kew. iii. 393 (1789)). This unfortunate change is required by the "International Rules," although not by the "American Rules." The only previous *S. alpina* is of Scopoli, *Fl. Carn.* ed. 2. 255. t. 61 (1772), described by Scopoli as doubtfully distinct from *S. lanata* L. and *S. fusca* L., and not kept up by any modern author. Andersson (in A. DC. *Prod.* xvi. pt. 2. 248, 289 (1868)) refers *S. alpina* Scop. in part to *S. Myrsinites* L., in part to *S. Myrsinites* L. β *Jacquiniana* (Willd.) Anders., and in part to *S. arbuscula* L. α *erecta* Anders. f. 3. *angustifolia* Anders. Walter's homonym is consequently available and must be adopted, inappropriate as it is, according to the "Vienna Rules." Walter's description is clearly of *S. tristis*, and there is a specimen of that species in his herbarium, labeled "Salix minor ? of Fraser," not in Walter's hand, which may be considered the type. Fraser's name, which may well have referred to this species, was never published.

The changes here proposed may be summarized in systematic order as follows, the numbers referring to the preceding list:

(20) *PONTHIEVA RACEMOSA* (Walt.) Blake — *P. glandulosa* (Sims) R. Br.

(21) *HEXALECTRIS SPICATA* (Walt.) Barnhart — *H. aphylla* (Nutt.) Raf.

- (23) SALIX ALPINA Walt. — *S. tristis* Ait.
 (5) PETALOSTEMUM PINNATUM (Walt.) Blake — *P. corymbosum* Michx.
 (14) HYPERICUM DENTICULATUM Walt.— *H. virgatum* Lam.
 (14) *H. DENTICULATUM* Walt. var. *OVALIFOLIUM* (Britton) Blake — *H. virgatum* Lam. var. *ovalifolium* Britton.
 (14) *H. DENTICULATUM* Walt. var. *ACUTIFOLIUM* (Ell.) Blake — *H. virgatum* Lam. var. *acutifolium* (Ell.) Coult.
 (7) RHEXIA ALIFANUS Walt.— *R. glabella* Michx.
 (6) SIUM SUAVE Walt.— *S. cicutaefolium* J. F. Gmel.
 (8) LEUCOTHOE POPULIFOLIA (Lam.) Dippel — *L. acuminata* (Ait.) G. Don.
 (8) LYONIA LUCIDA (Lam.) K. Koch — *L. nitida* (Bartr.) Fernald.
 (4) IPOMOEA SPECIOSA (Walt.) Hall. fil.— *I. sagittata* Poir.
 (3) LITHOSPERMUM CAROLINIENSE (Walt.) MacM.— *L. Gmelini* (Michx.) Hitchc.
 (10) SCUTELLARIA OVATA Hill — *S. versicolor* Nutt.
 (10) *S. OVATA* Hill var. *BRACTEATA* (Benth.) Blake — *S. versicolor* Nutt. var. *bracteata* Benth.
 (9) MACBRIDEA CAROLINIANA (Walt.) Blake — *M. pulchra* Ell.
 (11) PHYSOSTEGIA PURPUREA (Walt.) Blake — *P. denticulata* (Ait.) Britton.
 (2) MICRANTHEMUM UMBROSUM (Walt.) Blake — *M. orbiculatum* Michx.
 (13) SEYMERIA CASSIODES (Walt.) Blake — *S. tenuifolia* Pursh.
 (1) ELYTRARIA CAROLINIENSIS (Walt.) Pers.— *E. virgata* Michx.
 (1) *E. CAROLINIENSIS* (Walt.) Pers. var. *ANGUSTIFOLIA* (Fernald) Blake — *E. virgata* Michx. var. *angustifolia* Fernald.
 (12) RUELLIA CAROLINIENSIS (Walt.) Steud.— *R. ciliosa* Pursh.
 (12) *R. CAROLINIENSIS* (Walt.) Steud. var. *PARVIFLORA* (Nees) Blake — *R. ciliosa* Pursh var. *parviflora* (Nees) Britton.
 (17) VERNONIA ACAULIS (Walt.) Gleason — *V. oligophylla* Michx.
 (18) PTEROCAULON PYCNOSTACHYUM (Michx.) Ell.— *Chaenolobus undulatus* (Walt.) Small.
 (19) CHAPTALIA TOMENTOSA Vent.— *C. semifloscularis* (Walt.) Rob.
 (16) KRIGIA BIFLORA (Walt.) Blake — *K. amplexicaulis* (Michx.) Nutt.
 (15) PRENANTHES AUTUMNALIS Walt.— *P. virgata* Michx.

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